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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,504	03/08/2001	Hayami Sugiyama	204290US2X	2181

22850 7590 09/11/2002

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EXAMINER

TRAN, HUAN HUU

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant N .

09/800,504

Applicant(s)

SUGIYAMA ET AL.

Examiner

Huan H. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 10-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8 and 9 is/are rejected.
- 7) ☒ Claim(s) 3 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 and 4. 6) ☐ Other:

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DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-9 in Paper No. 7 is acknowledged. The traversal is on the ground(s) that the Restriction Requirement has not established that an undue burden would be required if the Restriction Requirement was not issued and if all the claims were examined together. This is not found persuasive because for purposes of the initial requirement, a serious burden on the examiner may be prima facie shown if the examiner shows by appropriate explanation of separate classification, or separate status in the art, or a different field of search as defined in MPEP § 808.02. This prima facie showing has not been rebutted by appropriate showings or evidence by the applicant other than a conclusionary statement made that the search for one group of invention would include the search for the other invention. See the guidelines set forth in MPEP § 803.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 10-25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7.

Inventorship

3. In view of the papers filed on 08/27/2002, the inventorship in this nonprovisional application has been changed by the deletion of Yoshikazu MIYASHITA and Sigeyuki KAWAMURA.

The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of the file jacket and PTO PALM data to reflect the inventorship as corrected.

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Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 4, 5, 6, 8, 9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sugiyama (WO 99 58340 cited in the IDS filed on 10/17/2001).

Sugiyama discloses a thermal head comprising:

a heat sink (1224);

a metal substrate (1221);

an insulating layer (1226, 1223) formed on the surface of the metal substrate, wherein portions, in contact with heating elements, of said insulating layer protrude in a direction toward said heating elements;

a plurality of heating elements (1228, 1229) disposed on the surface of said insulating layer, said heating elements being arranged with a predetermined pitch along a plurality of lines in a main scanning direction, said plurality of lines being spaced from each other in a paper feeding direction perpendicular to the main scanning direction, wherein said heating elements are disposed such that the location, in the main scanning direction, of each heating element is coincident with the location of one of heating elements arranged in an adjacent line;

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two conductor patterns for supplying current to each heating element to generate heat are connected to each heating element on the side opposite to said insulating layer;

a heat radiating element (1222) formed integrally with said metal substrate and projecting from the surface of said metal substrate to the side where said insulating layer is disposed,

wherein a part, in contact with one line of said heating elements, of said insulating layer and a part, in contact with a directly adjacent line of said heating elements, of said insulating layer are separated from each other by said heat radiating element.

7. Claims 1, 2, 4, 5, 6, 8, 9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sugiyama (JP 10-138541 cited in the IDS filed on 06/08/2001).

Sugiyama discloses a thermal head comprising:

a heat sink (1);

a metal substrate (2);

an insulating layer (10, 11) formed on the surface of the metal substrate, wherein portions, in contact with heating elements, of said insulating layer protrude in a direction toward said heating elements;

a plurality of heating elements (4, 5) disposed on the surface of said insulating layer, said heating elements being arranged with a predetermined pitch along a plurality of lines in a main scanning direction, said plurality of lines being spaced from each other in a paper feeding direction perpendicular to the main scanning direction, wherein said heating elements are disposed such that the location, in the main scanning direction, of each

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heating element is coincident with the location of one of heating elements arranged in an adjacent line;

two conductor patterns for supplying current to each heating element to generate heat are connected to each heating element on the side opposite to said insulating layer;

a heat radiating element (3) formed integrally with said metal substrate and projecting from the surface of said metal substrate to the side where said insulating layer is disposed,

wherein a part, in contact with one line of said heating elements, of said insulating layer and a part, in contact with a directly adjacent line of said heating elements, of said insulating layer are separated from each other by said heat radiating element.

8. Claims 1, 2, 4, 5, 6, 8, 9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sugiyama (JP 10-151784 cited in the IDS filed on 06/08/2001).

Sugiyama discloses a thermal head comprising:

a heat sink (23);

a metal substrate (21);

an insulating layer (24₁, 24₂) formed on the surface of the metal substrate, wherein portions, in contact with heating elements, of said insulating layer protrude in a direction toward said heating elements;

a plurality of heating elements (25₁, 25₂) disposed on the surface of said insulating layer, said heating elements being arranged with a predetermined pitch along a plurality of lines in a main scanning direction, said plurality of lines being spaced from each other in a paper feeding direction perpendicular to the main scanning direction, wherein said heating

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elements are disposed such that the location, in the main scanning direction, of each heating element is coincident with the location of one of heating elements arranged in an adjacent line;

two conductor patterns for supplying current to each heating element to generate heat are connected to each heating element on the side opposite to said insulating layer;

a heat radiating element (22) formed integrally with said metal substrate and projecting from the surface of said metal substrate to the side where said insulating layer is disposed,

wherein a part, in contact with one line of said heating elements, of said insulating layer and a part, in contact with a directly adjacent line of said heating elements, of said insulating layer are separated from each other by said heat radiating element.

Allowable Subject Matter

9. Claims 3 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: As per claim 3, prior art of record do not show that the insulating layers are connected through a gap across the heat radiating element.

As per claim 7, prior art of record do not show the heating elements of adjacent lines being shifted in the main scanning direction.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huan H. Tran whose telephone number

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is (703) 308-0749. The examiner can normally be reached on M-F with alternate Friday off, from 7:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hilten can be reached on (703) 308-0719. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-3421 for regular communications and (703) 308-3421 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1749.



Huan H. Tran
Primary Examiner
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hht
September 6, 2002